

of the still image based on a mode switched in said switching step.

3. An image sensing method comprising:

5 a vibration detecting step of detecting vibration of an image sensing apparatus main body;

a calculating step of calculating a correction variable based on vibration data indicative of the vibration of the image sensing apparatus main body
10 detected in said vibration detecting step;

a control step of controlling a timing of reading an image signal from an image sensing device based on a calculation result of said calculating step;

15 a delaying step of delaying the read image signal by predetermined time;

an adding step of adding the read image signal to the delayed image signal, delayed in said delaying step, at a predetermined addition ratio based on the calculation result of said calculating step; and

20 an addition ratio control step of controlling the addition ratio, used in said adding step, to 1:0 when sensing a still image.

4. The image sensing method according to claim
25 3, further comprising:

a switching step of switching between a still

image sensing mode and a moving image sensing mode; and
a recording step of performing recording operation
of the still image based on a mode switched in said
switching step.

5

5. An image sensing apparatus comprising:
vibration detecting means for detecting vibration
of the image sensing apparatus main body;
calculating means for calculating a correction
10 variable based on vibration data indicative of the
vibration of the image sensing apparatus main body
detected by said vibration detecting means;
control means for controlling a timing of reading
an image signal from an image sensing device based on a
15 calculation result of said calculating means;
delaying means for delaying the read image signal
by predetermined time;
adding means for adding the read image signal to
the delayed image signal, delayed by said delaying means,
20 at a predetermined addition ratio based on the
calculation result of said calculating means; and
addition control means for prohibiting addition of
said adding means when sensing a still image.

25

6. The image sensing apparatus according to
claim 5, further comprising:

switch means for switching between a still image sensing mode and a moving image sensing mode; and

recording means for performing recording operation of the still image based on a switched mode of said

5 switch means.

7. The image sensing apparatus according to claim 5, wherein said vibration detecting means is an angular velocity sensor.

10

8. An image sensing apparatus comprising:

vibration detecting means for detecting vibration of an image sensing apparatus main body;

calculating means for calculating a correction
15 variable based on vibration data indicative of the vibration of the image sensing apparatus main body detected by said vibration detecting means;

control means for controlling a timing of reading an image signal from an image sensing device based on a
20 calculation result of said calculating means;

delaying means for delaying the read image signal by predetermined time;

adding means for adding the read image signal to the delayed image signal, delayed by said delaying means,
25 at a predetermined addition ratio based on the calculation result of said calculating means; and

addition ratio control means for controlling the addition ratio, used by said adding means, to 1:0 when sensing a still image.

5 9. The image sensing apparatus according to claim 8, further comprising:

switch means for switching between a still image sensing mode and a moving image sensing mode; and

10 recording means for performing recording operation of the still image based on a switched mode of said switch means.

15 10. The image sensing apparatus according to claim 8, wherein said vibration detecting means is an angular velocity sensor.

20 11. A storage medium storing a control program for controlling an image sensing apparatus, said control program having control modules comprising the steps of:

detecting vibration of an image sensing apparatus main body;

calculating a correction variable based on vibration data indicative of the detected vibration of the image sensing apparatus main body;

25 controlling a timing of reading an image signal from an image sensing device based on a calculation

result;

delaying the read image signal by predetermined time;

adding the read image signal to the delayed image
5 signal at a predetermined addition ratio based on the calculation result; and

controlling to prohibit the adding step when sensing a still image.

10 12. The storage medium according to claim 11, said control program having control modules comprising the steps of:

switching between a still image sensing mode and a moving image sensing mode; and

15 controlling to perform recording operation of the still image based on a switched mode.

13. A storage medium storing a control program for controlling an image sensing apparatus, said control
20 program having control modules comprising the steps of:

detecting vibration of an image sensing apparatus main body;

calculating a correction variable based on vibration data indicative of the detected vibration of
25 the image sensing apparatus main body;

controlling a timing of reading an image signal

from an image sensing device based on a calculation result;

delaying the read image signal by predetermined time;

5 adding the read image signal to the delayed image signal at a predetermined addition ratio based on the calculation result; and

controlling the addition ratio to 1:0 when sensing a still image.

10

14. The storage medium according to claim 13, said control program having control modules comprising the steps of:

switching between a still image sensing mode and a
15 moving image sensing mode; and

controlling to perform recording operation of the still image based on a switched mode.

15. An image sensing method comprising:
20 an image sensing step of sensing an object; and
a vibration correction control step of correcting vibration of an image sensing apparatus main body,
wherein in said vibration correction control step,
only a predetermined correction position is used among
25 settable correction positions.

16. The image sensing method according to claim 15, wherein in said vibration correction control step, the vibration of the image sensing apparatus main body is electrically corrected.

5

17. The image sensing method according to claim 16, wherein in said vibration correction control step, signals for adjacent pixels are read simultaneously in the vertical direction from an image sensing device which is employed in said image sensing step, and a scan pixel area is changed at a minimum of one pixel pitch.

18. The image sensing method according to claim 17, wherein said vibration correction control step includes a shifting step of shifting an image up or down by adding image signals of vertically neighboring image signals.

19. The image sensing method according to claim 18, wherein in said vibration correction control step, only a predetermined correction position is utilized by appropriately controlling a shift amount of the scan pixel area and an addition ratio of the vertically neighboring image signals.

25

20. The image sensing method according to claim

15, wherein said image sensing apparatus is a video camera.

21. An image sensing method comprising:
5 an image sensing step of sensing an object; and
a vibration correction control step of correcting
vibration of an image sensing apparatus main body,
wherein in said vibration correction control step,
an image is shifted up or down by changing a scan pixel
10 area at one pixel pitch and adding vertically
neighboring image signals at a predetermined addition
ratio so as to keep resolution of the image signals
constant.

15 22. The image sensing method according to claim
21, wherein in said vibration correction control step,
the addition ratio of the vertically neighboring image
signals is fixed to 1:7 or 7:1, and a correction pitch
is set at 1/2 pixel pitch.

20 23. The image sensing method according to claim
21, wherein said image sensing apparatus is a video
camera.

25 24. An image sensing apparatus comprising:
image sensing means for sensing an object; and

562220" 5455250
vibration correction control means for correcting
vibration of an image sensing apparatus main body,

wherein said vibration correction control means
uses only a predetermined correction position among
5 settable correction positions.

25. The image sensing apparatus according to
claim 24, wherein said vibration correction control
means electrically corrects the vibration of the image
10 sensing apparatus main body.

26. The image sensing apparatus according to
claim 25, wherein said vibration correction control
means simultaneously reads signals for adjacent pixels
15 in the vertical direction from an image sensing device
which is employed by said image sensing means, and
changes a scan pixel area at a minimum of one pixel
pitch.

20 27. The image sensing apparatus according to
claim 26, wherein said vibration correction control
means includes shifting means for shifting an image up
or down by adding vertically neighboring image signals.

25 28. The image sensing apparatus according to
claim 27, wherein said vibration correction control

means utilizes only a predetermined correction position, by appropriately controlling a shift amount of the scan pixel area and an addition ratio of the vertically neighboring image signals.

5

29. The image sensing apparatus according to claim 24, wherein said image sensing apparatus is a video camera.

10

30. An image sensing apparatus comprising:
image sensing means for sensing an object; and
vibration correction control means for correcting vibration of an image sensing apparatus main body,
wherein said vibration correction control means
15 shifts an image up or down by changing a scan pixel area at one pixel pitch and adding vertically neighboring image signals at a predetermined addition ratio so as to keep resolution of the image signals constant.

20

31. The image sensing apparatus according to claim 30, wherein said vibration correction control means fixes the addition ratio of the vertically neighboring image signals to 1:7 or 7:1, and sets a correction pitch at 1/2 pixel pitch.

25

32. The image sensing apparatus according to

claim 30, wherein said image sensing apparatus is a video camera.

5 33. A storage medium storing a control program for controlling an image sensing apparatus, said control program having control modules comprising the step of controlling such that vibration correction control means which corrects vibration of an image sensing apparatus main body uses only a predetermined correction position
10 among settable correction positions.

34. The storage medium according to claim 33, wherein said vibration correction control means electrically corrects the vibration of the image sensing
15 apparatus main body.

35. The storage medium according to claim 34, wherein said vibration correction control means simultaneously reads signals for adjacent pixels in the
20 vertical direction from an image sensing device which is employed by said image sensing means, and changes a scan pixel area at a minimum of one pixel pitch.

36. The storage medium according to claim 34,
25 wherein said vibration correction control means includes shifting means for shifting an image up or down by

adding vertically neighboring image signals.

37. The storage medium according to claim 34,
wherein said vibration correction control means utilizes
5 only a predetermined correction position, by
appropriately controlling a shift amount of the scan
pixel area and an addition ratio of the vertically
neighboring image signals.

10 38. The storage medium according to claim 33,
wherein said image sensing apparatus is a video camera.

39. A storage medium storing a control program
for controlling an image sensing apparatus, said control
15 program having control modules comprising the step of
shifting an image up or down by changing a scan pixel
area at one pixel pitch and adding vertically
neighboring image signals at a predetermined addition
ratio to correct vibration of an image sensing apparatus
20 main body, and making the predetermined addition ratio
constant so as to keep resolution of the image signals
constant.

40 The storage medium according to claim 34,
25 wherein said vibration correction control means fixes
the addition ratio of the vertically neighboring image

1 and s

5 wherein said

THE UNIVERSITY OF CHICAGO